

## **Special Project Abstracts**

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## Special Project Abstracts

### Table of Contents

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The EMS Authority's Special Project Grant Program.....	1
Special Project Grant Selection Process .....	1

## Section I

### 1998/99 SFY Project Abstracts Indexed by County

El Dorado County EMS Agency	
First Responder System Status Analysis.....	4
Kern County EMS Agency	
EMS System Design - Phase II .....	6
Los Angeles County EMS Agency	
Continuing Education Modules for Basic & Advanced Prehospital Providers .....	8
Coastal Valleys EMS Agency	
Automated Data Collection System.....	10
Santa Barbara County EMS Agency	
ED Outcome Data Implementation .....	12
Sierra-Sacramento Valley EMS Agency	
Statewide EMS Evaluation and Planning.....	14
Ventura County EMS Agency	
EMS Data Management.....	15

---

## Table of Contents (continued)

### Abstracts Indexed by Subject Type

#### EMS Prehospital Data and Information Services

Automated Data Collection System - Coastal Valleys .....	10
ED Outcome Data Implementation - Santa Barbara .....	12
EMS Data Management - Ventura .....	15

#### Prehospital Emergency Medical Personnel Standard and Policies

First Responder System Status Analysis - El Dorado .....	4
EMS System Design - Phase II - Kern.....	6
Cont. Ed. Modules for Basic & Advanced Prehospital Providers - Los Angeles .....	8
Statewide EMS Evaluation and Planning - Sierra-Sacramento .....	14

## **Table of Contents (continued)**

---

### **Section II**

#### **1999/00 SFY Project Abstracts Indexed by County**

Contra Costa County EMS Agency	
Prehospital Data Linkage and Outcome .....	18
Emergency Medical Services for Children (EMSC).....	20
El Dorado County EMS Agency	
Disaster Response Planning and Preparedness .....	22
Imperial County EMS Agency	
Medical/Health Services Disaster Plan.....	23
Kern County EMS Agency	
Patient Assessment and Destination Decision (PADD) .....	25
CISM Training for Prehospital Personnel.....	26
Los Angeles County EMS Agency	
Prehospital Identification and Rapid Treatment of Acute Stroke.....	27
Evaluation of Air vs. Ground Transport/Pediatric Outcome.....	28
Prehospital Infant Assessment.....	31
Marin County EMS Agency	
Coordination of Injury Prevention Efforts .....	32
Medical/Health Disaster Preparation Plan .....	34
Merced County EMS Agency	
Medical/Health Disaster Plan Development .....	36
Emergency Medical Services for Children (EMSC).....	38
Mountain-Valley EMS Agency	
Statewide Standards for Disaster Medical Response.....	40
Standards & Guidelines for Statewide EMS System Evaluation.....	42
Stanislaus County EMS System Redesign .....	44
North Coast EMS Agency	
Multi-County Disaster Medical/Health Preparedness.....	45

San Francisco County EMS Agency	
Trauma System Evaluation.....	47
<b>Table of Contents (continued)</b>	
 San Mateo County EMS Agency	
EMS Community Health Education Program.....	49
 Santa Barbara County EMS Agency	
Emergency and Disaster Planning for Vulnerable Population.....	51
 Santa Clara County EMS Agency	
A Professional Education Series for Emergency Medical Services .....	53
 Sierra-Sacramento Valley EMS Agency	
A Practical Guide for the Development & Implementation of EMSC .....	55
Trauma System Resource Document .....	57
Violence Prevention Education for EMS Providers.....	58
Automated Ambulance Inspection System .....	59
 Ventura County EMS Agency	
Trauma Assessment and Planning .....	60

## **Table of Contents (continued)**

---

### **Abstracts Indexed by Subject Type**

#### **Disaster Medical Services Preparedness and Hazard Mitigation**

Disaster Response Planning and Preparedness - El Dorado.....	22
Medical/Health Services Disaster Plan - Imperial .....	23
Medical/Health Disaster Preparation Plan - Marin.....	34
Medical/Health Disaster Preparation Plan - Merced .....	36
Statewide Standards for Disaster Medical Response - Mtn.-Valley.....	40
Multi-County Disaster Medical/Health Preparedness - North Coast .....	45
Emergency and Disaster Planning for Vulnerable Population - Santa Barbara.....	51

#### **EMS For Children (EMSC)**

Emergency Medical Services for Children (EMSC) - Contra Costa.....	20
Evaluation of Air vs. Ground Transport/Pediatric Outcome - Los Angeles .....	28
Prehospital Infant Assessment - Los Angeles .....	31
Emergency Medical Services for Children (EMSC) - Merced .....	36
A Practical Guide for the Develop. & Implementation of EMSC - Sierra-Sacramento.....	55

#### **EMS Prehospital Data and Information Services**

Prehospital Data Linkage and Outcome - Contra Costa .....	18
Patient Assessment and Destination Decision (PADD) - Kern.....	25
Standards & Guidelines for Statewide EMS System Evaluation - Mtn.-Valley .....	42

#### **EMS System Planning and Development**

Stanislaus County EMS System Redesign - Mtn.-Valley .....	44
---	----

#### **Injury Prevention and Public Education**

Coordination of Injury Prevention Efforts - Marin.....	32
EMS Community Health Education Program - San Mateo .....	49
Violence Prevention Education for EMS Providers - Sierra-Sacramento.....	58

## **Table of Contents (continued)**

---

### **Prehospital Emergency Medical Personnel Standard and Policies**

CISM Training for Prehospital Personnel - Kern.....	26
Prehospital Identification and Rapid Treatment of Acute Stroke - Los Angeles .....	27
Trauma System Evaluation - San Francisco.....	47
A Professional Education Series for EM S - Santa Clara.....	53
Trauma System Resource Document - Sierra-Sacramento .....	57
Automated Ambulance Inspection System - Sierra-Sacramento .....	59
Trauma Assessment and Planning - Ventura.....	60





## **The EMS Authority's Special Grant Program**

The Health and Safety Code (Sec. 1797.200) permits a county to develop an EMS program. Each county developing an EMS program must designate a local EMS agency, which may be the county health department, an agency established and operated by the county, an entity with which the county contracts for the purposes of EMS administration, or a joint powers agency.

Funding of local EMS agencies is generally the responsibility of the county establishing the EMS program. In California, the development of EMS systems has been varied as a result of the state's large size, geographical features, diverse population distribution, and differing availability at the local level of adequate finances and other resources. In an effort to promote the development and maintenance of EMS systems, some state and federal funding is available to assist local EMS agencies in maintaining, developing, improving, and evaluating local services.

The EMS Authority administers two local assistance funding programs. They are (1) the State General Fund and, (2) the Federal Preventive Health and Health Services (in California called Prevention 2000) Block Grant.

Prevention 2000 Block Grant funds (approximately \$1.3 million) are allocated to local EMS agencies annually for special projects to develop, implement, and improve local and state EMS capabilities.

### **Special Project Grant Selection Process**

The EMS Authority utilizes a competitive grant selection process. Proposals are sorted and reviewed by target areas to allow for an organized and equitable review process.

A review committee consisting of 10-12 reviewers drawn from the EMS community convenes in Sacramento. The committee consists of EMS administrators, medical directors, and subject experts as determined by the EMS Authority. Individuals do not serve on the committee if their local EMS agency has submitted an application for funding. There is one primary and one secondary reviewer for each grant application. They review in depth and present the project to the whole committee. All reviewers receive copies of all of the proposals being reviewed by the committee.

The reviewers make ranked recommendations for funding of projects and provide written comments on each proposal to the EMS Authority.

The EMS Authority makes the final selection of projects to be funded. Funds are allocated according to the ranking of the proposals. Amounts allocated are related to the appropriateness of the budget, the potential benefit, and the availability of funds.

The EMS Authority provides a summary of the review committee's comments (positive and negative) for each proposal to help applicants improve future proposals for funding.

With respect to Special Project Grants, it is EMSA's goal to continue the funding stream to local EMS agencies. The specific use of these funds are to assist local EMS agencies to improve underdeveloped EMS system components.

It is also our goal to improve the transferability of projects, by examining the statewide application of proposed projects. We wish to reduce the reliance upon special projects to augment local EMS agency budgets.

The EMS Authority distributes the abstracts of projects annually and will continue a participatory review of grant submissions to meet these goals.

Section I contains the Abstract Reports from FY 98/99.

Section II contains the Abstract Reports from FY 99/00.

# SECTION I

## **SPECIAL PROJECT ABSTRACTS**

**1998/99 SFY GRANTS**

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## First Responder System Status

### Grantee:

El Dorado County EMS Agency

**Project Number:** EMS-8065

**Project Period:** 06/30/99-06/30/00

**Project Amount:** \$60,000.00

### EMS Administrator:

Gayle Erbe-Hamlin, Interim  
415 Placerville Drive, Suite J  
Placerville, CA 95667  
(530) 621-6500

### Introduction

This project was undertaken to evaluate the levels of first response in El Dorado County, including treatment, training, and qualifications of first responder personnel, medical equipment available for scene treatment, communications capability, and factors affecting first responder capability.

### Project Description

The prime purpose of this project was to analyze any disparity in the levels of response, training, treatment, qualifications of personnel, equipment available for scene treatment, communications ability, and other factors of first responder care in this County, and then to suggest methodology to improve areas of weakness or material deficiency.

A desired secondary benefit was improvement in the relationships between the EMS Agency and fire agencies.

### Tasks/Methodology

In order to evaluate the disparity of first responder systems, it was necessary to conduct a survey and analysis of the first

responder service provided throughout the fire agencies. To that end, a major part of the study was the development of a survey form that would help develop an inventory of each fire agency's capabilities. The information on first responder calls was obtained from the County Dispatch Agencies.

A veritable book was compiled at the end of the study, and will be distributed to all interested parties. Each fire agency's response zone(s) was mapped by site visits, photography and GPS readings.

### Outcome

Data on calls, call volumes, call percentages as a part of total fire dispatches, equipment on board, training of personnel and relationships were all readily compiled with the exception of the equipment. The very lack of equipment data indicated a serious lack of both airway as well as defibrillation equipment in the system.

One outcome of this study is the clear impression that definitive and comprehensive EMS legislation are indicated in the governance of the first response system. This study confirmed that approximately 70% of fire agency

activities are medical in nature, and as such, these agencies should have the same oversight as all other medical providers.

The analysis clearly points up the need for further training and equipping of the rural first response system. The analysis also brought out the fact that there is a large practice of medicine occurring in El Dorado County that does not have clear medical oversight. The laws of the State and County currently do not adequately provide for EMS Agency medical oversight and enforcement for the first responder system, and this should be carefully examined.

## **Conclusion**

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## EMS System Design Model - Phase II

**Grantee:**

Kern County EMS Agency

**Project Number:** EMS-8066

**Project Period:** 06/30/99-06/30/00

**Project Amount:** \$30,000.00

**EMS Administrator:**

Russ Blind, Interim

1400 H Street

Bakersfield, CA 93301

(661) 868-5200

### Introduction

The Kern County EMS System Design II Project is an extended effort to implement actions contained in the Kern County EMS System Design Plan, which was originally developed in 1998. The plan includes actions leading to development and implementation of the following:

- EMT-1 First Responder Assessment Protocols to determine when ambulance response cancellation is indicated and patients that do not need ambulance transport.
- EMT-1 Transport Provider Assessment Protocols to determine when a patient does not require transport and patients that should be transported to an approved alternative care facility (urgent care center, clinic, or physician office).
- Paramedic Assessment Protocols to determine when a patient does not require transport and patients that should be transported to an approved alternative care facility (urgent care center, clinic, or physician office).

### Project Description

The main focus of this project grant was to examine patient volumes the assessment protocols at each level would yield, determination if implementation should be by trial study, adequacy of existing data to gather pre-implementation data and to conduct continuous quality improvement post-implementation. Further efforts were to finalize Paramedic Assessment Protocols and develop minimum indications for intravenous access, electrocardiogram monitoring and pulse oximetry.

### Tasks/Methodology

Fire data and PCR data gathering, evaluation, and group review of data results. Additional work on Paramedic Assessment Protocols and Paramedic Treatment Protocols with group review.

### Outcome

A Fire EMT-1 First Responder Data Dictionary was developed consistent with project data needs with identification of matching data items in accordance with NFPA standards. Pre-implementation data was examined at each level and potential patient volumes yielded by each level of assessment protocols were isolated.

Planning was conducted on a Medical Advice & Routing Center to coordinate

It was determined that Fire EMT-1 First Responder Assessment Protocols would result in a minimum 8% in increased ambulance cancellations before scene arrival (reducing unnecessary ambulance responses); that EMT-1 Transport Provider Assessment Protocols/Paramedic Assessment Protocols would result in a minimum 10% reduction in unnecessary patient transports and a minimum 18% reduction in patient transport to a hospital emergency department.

It was also determined that there is a significant volume of 'precautionary' ALS level care cases that could be significantly reduced with specific minimum protocols for intravenous access, electrocardiogram monitoring and pulse oximetry.

## **Conclusion**

This project funding for the second phase of the Kern County EMS System Design Plan was highly valuable to examine pre-implementation data, sufficiency of existing data sources, and minimum volumes the assessment protocols at each level would yield.

Overall, the results were highly encouraging and validated our efforts in progression to date. Further funding is needed to continue this effort to get the "right patient – to the right place – the first time", contain unnecessary costs, reduce tremendous downstream healthcare costs and to ultimately fund and preserve the EMS Safety Net for the public.

alternative patient transport destinations and non-transport case follow-up.

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## Cont. Ed. Modules for Basic & Advanced Prehospital Providers

**Grantee:**

Los Angeles County EMS Agency

**Project Number:** EMS-8033

**Project Period:** 07/01/98-09/30/00

**Project Amount:** \$77,110.00

**EMS Administrator:**

Virginia Hastings

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Commerce, CA 90022

(323) 890-7500

### Introduction

The Los Angeles County EMS Agency in cooperation with the Harbor-UCLA Research and Education Institute and the Departments of Emergency Medicine and Pediatrics at Harbor-UCLA Medical Center undertook a two-year project to develop a continuing education program for use by out-of-hospital providers in their care of adult and pediatric patients.

### Project Description

The objective of this program is to develop and enhance the materials available for continuing education of prehospital providers and to improve EMS provider self-efficacy in caring for patients of all ages.

### Tasks/Methodology

This program entitled "Continuing Education Modules for Basic and Advanced Prehospital Care Providers" (CEM) includes 15 important topic areas in prehospital care including:

- I. Chest Pain
- II. Dysrhythmias
- III. Respiratory Emergencies

- IV. Pediatric Emergencies I
- V. Pediatric Emergencies II
- VI. Trauma I
- VII. Trauma II
- VIII. Neurological Emergencies
- IX. Obstetric and Gynecologic Emergencies
- X. Behavioral and Toxicological Emergencies
- XI. Geriatric
- XII. Medical Emergencies
- XIII. Environmental Emergencies
- XIV. Professionalism and Ethics in Prehospital Care
- XV. Medical/Legal Issues in Prehospital Care

This cased-based program presents case scenarios and provides didactic information in the real-life context of the provision of prehospital care. EMS educators can utilize CEM materials to provide continuing education to basic and advanced prehospital providers. These educational materials include 15 lectures (Power Point format), instructor resource material with copies of the slides and additional information that can be used by the educator as a script or as a resource, student and faculty evaluation forms, student examination of cognitive material within the program (with answers and explanations of correct responses) and student handouts. EMS educators will be able to customize the materials to address



local variation in scope of practice and policy.

In addition to the instructor-based materials is a student self-paced CD based on the 15 lectures which includes features such as a slide show, script for enhanced learning, “Quick Quizzes” for each module, “Hot Topics” for a discussion of controversial subjects and a Learning Center where glossary of terms and special diagrams, or other graphics to supplement the program will be located.

### **Outcome/Conclusion**

Modules for 15 subject areas have been developed for use in continuing education programs statewide. Copies of the entire program will be available at roll-out sessions that will be conducted by the EMS Agency, the Principle Investigator, the Contract Educators and the Steering Committee. Improvement in self-efficacy of EMS providers to provide care to patients of various ages will be assessed during roll-out sessions in September 2001.

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## Automated Data Collection System

**Grantee:**

Coastal Valleys EMS Agency

**Project Number:** EMS-8040

**Project Period:** 07/01/98-10/30/00

**Project Amount:** \$89,200.00

**EMS Administrator:**

Bonny Martignoni, Assistant

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### Introduction

The purpose of this project was to seek second year funding in fiscal year 1998-1999 to upgrade and enhance the automated data collection system in Napa County by providing a central SQL database repository. The project also proposed to explore the practicality of developing an interface to the Napa Central Dispatch CAD in order to accurately record receipt time of 9-1-1 calls and also to evaluate the possibility of transferring data from the EMS database system to the Napa Fire Department Records Management System (RMS) to eliminate duplicate entry of specific EMS data fields.

The Coastal Valleys Regional EMS Agency comprised of the Counties of Sonoma, Napa, and Mendocino was formed and a one-year extension on the data project was requested to extend the contract and data project through the fiscal year 1999-2000. The time extension of the project provided the opportunity to evaluate two data systems to determine the system that would meet the objectives of the data project and also to consider a system that would be beneficial to the Coastal Valleys EMS Region.

### Project Description

The major objectives of this project were:

- To provide a central repository to enable prehospital providers the ability to access provider and CQI/outcome data from another location.
- To enhance the current data system by providing the ability for report retrieval by provider agencies, CQI liaisons and the EMS agency.
- To explore the practicality of developing an interface with the EMS SQL server database and Napa Central Dispatch CAD to enable provider agencies to accurately record receipt of 9-1-1 calls. To develop, install and implement the interface if determined feasible.
- To monitor response time standards based on the CAD 9-1-1 times and run reports based on "real time" or "near-real time" data.
- To evaluate the possibility of transferring data from the Napa Fire Department Records Management System (RMS) to the EMS SQL server database. To develop, install and implement the interface if determined feasible.
- To evaluate system performance and on-going reporting mechanisms.

### Tasks/Methodology

The Coastal Valleys EMS Agency staff, Napa County Health and Human Services Data Consultant and the Information Systems Department evaluated the two proposed data systems. The two data systems were evaluated to determine the capabilities for a central repository that would allow data access and retrieval from all three regional counties as well as the overall software costs, ease of implementation and on-going system maintenance. It was determined that the Coastal Valleys Regional EMS Agency would use the Electronic Prehospital Care Information System (EPCIS) developed by Marin County. The data system selected provided the capability for a central repository interface utilizing an SQL database.

### **Outcome**

An EPCIS User's Manual was developed that is available in both a printed version and on Adobe Acrobat. The Adobe Acrobat version can be linked to a web page or attached to most word processing formats. Also, Marin County has an annual report that is derived from the EPCIS software.

### **Conclusion**

The EPCIS automated data collection system has been implemented throughout the regional counties of Sonoma, Napa, and Mendocino. Data entry is accomplished by using PC computers located at receiving hospitals and provider sites.

The implementation of a regional automated data collection system has provided

the ability to collect and transfer data into an SQL repository that will enable the Regional EMS Agency, hospitals and provider agencies and personnel the ability to dial into a central repository from another location to retrieve information. The system will provide the EMS Agency staff with the ability to retrieve reports as well as develop specific reports to ensure monitoring of contract compliance and CQI throughout the region.

The Records Management system (RMS) that was used by the Napa Fire Department was changed to the Sunpro system. The EMS Agency staff, data consultants, MIS Department, City of Napa and developers of Sunpro evaluated the possibility of transferring data from the Sunpro system to the EMS SQL server to reduce duplicate entry of EMS data fields. It was determined that an interface was feasible and an agreement was developed with Sunpro to provide the County with the ability to produce an extracted data file. The mapping of the data elements was completed and an interface has been developed which is currently undergoing beta testing.

A data users group has been established that includes the Marin County developer of the EPCIS system and representatives from Coastal Valleys, Nor-Cal and North Coast EMS Regional EMS Agencies. In addition, Berkeley Fire Department has recently chosen to participate in the EPCIS data collection system and will also be attending these user group meetings.

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## ED Outcome Data Implementation

**Grantee:**

Santa Barbara County EMS Agency

**Project Number:** EMS-8050

**Project Period:** 07/01/98-10/31/00

**Project Amount:** \$76,750.00

**EMS Administrator:**

Nancy Lapolla

300 North San Antonio Road

Santa Barbara, CA 93110

(805) 681-5274

### Introduction/Project Description

There is an increasing interest today in better understanding and evaluating Emergency Medical systems. It is now well recognized that the appropriateness of medical care in any setting is best determined by the outcome of the patient.

A needs assessment/feasibility study funded by the State EMS Authority concluded that, in order to evaluate EMS systems including Emergency Departments (ED) in Santa Barbara County, it is necessary to collect key data on treatment and outcomes for patients utilizing the system.

Santa Barbara EMS Agency through this project proposes to obtain hospital and emergency department discharge data as part of the continuum of a comprehensive EMS information system. The data collected will become an added tool for the ongoing development and enhancements of a comprehensive quality improvement program.

### Tasks/Methodology

The purpose of this project was to enter into a partnership with Santa Barbara County hospitals that establishes a win/win strategy to help the EMS system improve patient care and identify needs within the EMS system for

improvement. In order to meet the goals of this project, it was necessary to:

- Provide technical expertise to hospitals and the EMS Agency through consultative services,
- identify specific data elements which meet state and national standards; and,
- purchase a software program to integrate hospital and emergency data that can be linked in the future with all other EMS data applications.

Our goal in acquiring this information was not to request the individual hospital collect additional information but rather to look at existing information currently being collected within the hospital to meet our needs. The Office of Statewide Health Planning and Development (OSHDP) Discharge Data as identified on the Manual Abstract Reporting Form meets our data specifications with a few additional emergency department data elements added.

A procedure was developed with the proposed format for the data collection and integration of the data. A vendor's conference was held where system participants had an opportunity to experience multiple data systems. Software and data systems needed to be evaluated for the purpose of integration into the

system as well as the need for confidentiality of the system information.

### **Outcome/Conclusion**

During this grant-funding period many barriers had to be overcome to meet the projects goals. The development and implementation of Santa Barbara County's Trauma System plan polarized many hospitals and impeded the process of this project. There is a wide range of software programs that are used for the data management at these institutions, and they include proprietary hospital information management systems, database software programs, and programs that have been developed by individual institutions. Differences in the data systems and types of personnel used at individual institutions have created additional barriers to the complete implementation of a countywide database, and to the reporting of aggregate information.

Although the fundamental goals have been met, full implementation and integration of the outcome data system is not complete. The EMS Agency is dedicated to this goal and will continue working toward full implementation. The software system installed at the EMS Agency is capable of providing all necessary reports for the day-to-day evaluation of the system. The computerization, integration, and the electronic collection of this data will allow the EMS Agency through quality improvement process an informed and organized approach to managing the EMS System.

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## Statewide EMS Evaluation and Planning

**Grantee:**

Sierra-Sacramento Valley EMS Agency

**Project Number:** EMS-8064

**Project Period:** 06/01/99-09/30/00

**Project Amount:** \$363,920.00

**EMS Administrator:**

Leonard R. Inch

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Rocklin, CA 95677

(916) 625-1701

### Introduction

This project was intended to develop a statewide EMS System Plan. This will be achieved through implementation of the NHTSA recommendations, and the "Future of EMS in California" document. Six committees were formed to address the sixty-six Vision recommendations and the ninety NHTSA recommendations.

### Project Description

This is the first year of a three-year project that will create the statewide EMS System Plan. This plan will be based on NHTSA's recommendations, the "Future of EMS in California" Vision document recommendations, and a systematic annual review process that will be used to assess the effectiveness of local EMS systems and agencies.

The first year of this grant has focused on the formation of committees, assignment of vision objectives to committees, and the development of implementation plans.

### Tasks/Methodology

Sierra-Sacramento Valley EMS Agency (S-SV) contracted with a consultant to provide project management for the grant. In addition, two students were hired through the CSUS

Foundation for administrative support. Six groups were formed to address the recommendations: Funding, Governance, Data, Education and Personnel, Prevention, and Access. A project oversight team was also formed. The committees and the project oversight team met quarterly, and held conference calls, as needed. The Vision document objectives were finalized, and each of the committees has formed draft implementation plans for achieving the Vision process and NHTSA recommendations. Work has begun on implementing the Vision objectives, and is continuing.

Objectives for this project were accomplished through a cooperative effort of the consultants, S-SV staff, and the project oversight team. The quarterly meetings that took place with the committees and project oversight team, and conference calls facilitated the completion of the objectives for the first year of the project.

### Outcome

At the conclusion of the first year, the implementation plans for the Vision and NHTSA objectives were to be completed. The three-month extension of the contract enabled this to occur. The Vision process is also continuing; in order to achieve the implementation plans.

## **Conclusion**

This is the first year of a three-year project.

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## EMS Data Management

### Grantee:

Ventura County EMS Agency

**Project Number:** EMS-8067

**Project Period:** 06/30/99-09/30/00

**Project Amount:** \$71,790.00

### EMS Administrator:

Barbara Brodfuehrer

2323 Knoll Drive, Suite 100

Ventura, CA 93003

(805) 677-5270

### Introduction

Ventura County EMS (VCEMS) has sought to enhance its current documentation and data collection system to allow real time data collection through funding of the Ventura County Comprehensive EMS Data Management Project.

Without adequate capabilities to analyze clinical outcomes in a timely manner, VCEMS is limited in its ability to make critical EMS system changes necessary to assure high quality pre-hospital emergency care. Recent technological advances and new systems standards have made it clear that implementation of an improved data management system is vital to validate system needs and plan for future systems development.

### Project Description

The proposed system seeks to integrate data from dispatch agencies, first responder agencies, transport agencies, hospitals and other associated groups that contribute to the provision of and/or analysis of EMS system performance.

Implementation of this project will provide “real time” data entry and documentation with a printed PCR that is available to the hospital, via FAX, in a timely manner. Information will be available as appropriate for each level of service, e.g., a paramedic will be

### Tasks/Methodology

The Project Coordinator worked with the contractor to complete Phase 1 components necessary for implementation and to work on some of the Year 2 objectives. As described in the Final Report, some of these objectives have been placed on hold pending completion of Phase 1. Other parts, such as expanding the System Model and Master Data Model to include Year 2 elements, determining methods of receiving dispatch agency data, CQI integration, and definition of additional reports has taken place.

### Outcome

Software to document care provided to users of the 911 and EMS systems in Ventura County, user manuals for the software, reports to analyze the performance of the system are a product of this project.

### Conclusion

able to access the data on calls for which he/she is provided care and documentation, EMS response/transport agencies will be able to access their records, receiving hospitals – records on the patients who came to their hospitals, base hospitals – patients for whom they provided



medical control, and the EMS agency will have access to all data. In the future, dispatch agency data will be added, as well as base hospital medical control data and patient outcome data from all hospitals.

As stated in the Abstract for Year 1, “An agency embarking on a new documentation and data system should be prepared to have the process take much longer than originally anticipated? ,” and additionally, must be prepared to spend more money than planned.

# **SECTION II**

## **SPECIAL PROJECT ABSTRACTS**

### **1999/2000 SFY GRANTS**

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## Prehospital Data Linkage and Outcome

**Grantee:**

Contra Costa County EMS Agency  
**Project Number:** EMS-9033  
**Project Period:** 07/01/99-06/30/00  
**Project Amount:** \$44,500.00

**EMS Administrator:**

Art Lathrop  
1340 Arnold Drive, Ste. 126  
Martinez, CA 94553  
(925) 646-4690

### Introduction

This project was developed to enable the Contra Costa EMS Agency to complete development of an integrated management information system in accordance with the County EMS System Plan by (1) development of a reporting and query system for the paramedic patient care report database, (2) development of a patient outcome data system for patients transported by emergency ambulance to hospital emergency departments, (3) establishment of a system for linking existing EMS data records with each other and with the patient outcome data, and (4) development of a reporting and query system for the linked records. This management information system will be used to support a comprehensive EMS quality improvement system.

### Project Description

The major objectives of the second year were designed to build on the accomplishments of year one. Year one project activities and outcomes included review of EMS data systems in other areas of the state, development of a minimum set of standard reports for existing Contra Costa EMS databases, development and implementation of an emergency department patient outcome data collection

system, and proposed design of data linkages for multiple databases. During fiscal year 1999-2000, year two of the data grant project, the project objectives have been dedicated to development of linkages between multiple databases, and creation of reporting capabilities for the linked database records.

### Tasks/Methodology

Tasks including input into report types, parameters, and design were shared between the project management staff, steering committee members, and the Data Consultant. All software programming, technical documentation, and user interface development tasks were performed by the Data Consultant and his staff.

### Outcome

Linkages between the following databases:

- CAD-Patient Care Report (PCR)
- CAD-Medical Transmission Network (MTN)
- Base Hospital-PCR
- Trauma Registry-PCR

Sample standardized linked database reports:

- CAD-PCR link (detailed and summary reports)
- CAD-PCR link report for unlinked CAD records
- CAD-PCR link report for unlinked PCR records
- CAD-MTN link report

- Base Hospital-PCR link reports using documented contact time
- Base Hospital-PCR link reports using rounded contact time
- Trauma Registry-PCR link

Document of database linking fields and reports.

Data export capability to statistical reporting packages.

## **Conclusion**

The second year of this project has been successful in linking six of seven EMS databases, and has contributed to an improved EMS system by enhancing the reporting and query capabilities of existing databases and permitting better use of available data to augment system evaluation and monitoring. Linked database capability allows multiple database information to be used for system evaluation. ED outcome data linked to PCR data is providing EMS with the ability to match prehospital treatment to ED diagnosis, thus enhancing the ability to evaluate field care and prehospital patient treatment guidelines.

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## Emergency Medical Services for Children (EMSC)

**Grantee:**

Contra Costa County EMS Agency

**Project Number:** EMS-9044

**Project Period:** 10/01/99-09/30/00

**Project Amount:** \$80,000.00

**EMS Administrator:**

Art Lathrop

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### Introduction

From 1991-1997, a total of 104 youth ages 0-14 died from injuries in Contra Costa County. Injuries accounted for 13% of the total 795 youth who died in Contra Costa during the same period. The rate of injury death for youth ages 0-4 was 10.1 per 100,000 and for children 5-14 was 6.7 per 100,000.

In early 1999, the Contra Costa County EMS Agency identified integrated emergency and critical care services for children within the county as a priority. The California EMSC Model provided the ideal framework for development and implementation of a system that could provide these essential services. To this end, the county EMS agency pursued and was granted funding for an EMS for Children grant.

### Project Description

Contra Costa County's EMSC system is designed to be easily accessible and available to all children in the County in need of emergency and critical care. Major objectives/goals of this project included development of an efficient and cost effective management structure for EMSC; provision of high quality care to include

prehospital treatment and transport guidelines; emergency department and specialty care standards; facilitation of interfacility consultation and transfer; establishment of specialized personnel training programs; identification of specialty services such as trauma care and rehabilitation; provision of public education on illness and injury prevention; data collection and evaluation; and establishment of a CQI process.

### Tasks/Methodology/Outcome

The following tasks were completed in the first year of the grant:

Recruited and assigned a project coordinator and consultant. In October of 1999, Barb Center, RN, Contra Costa EMS Trauma Coordinator was assigned overall responsibility for coordination of the EMSC project by the EMS agency administration. A request for proposal for the position of EMSC project consultant was advanced in October of 1999. After review of all applicants, Lila Param, RN, MS was hired contingent on the approval of the Contra Costa Board of Supervisors.

Developed a multidisciplinary EMSC Task Force and subcommittees. Key personnel from prehospital providers, hospital providers, insurers/third party

payers, as well as relevant consumer, government and community groups were identified and contacted to request

Developing the EMSC plan: This objective continues throughout the grant. Development of the EMSC Task Force is the foundation of this plan.

Assessed current pediatric prehospital services and capabilities including supplies, equipment, treatment protocols and training. Developed and implemented requirement for Prehospital Pediatric Equipment and Supplies for BLS/ALS Units. Developed and implemented appropriate prehospital pediatric treatment protocols. Developed and implemented appropriate pediatric education guidelines including the revised pediatric prehospital treatment protocols and other education for paramedics and other prehospital personnel. The Prehospital committee reviewed multiple local, state and national references. Local identified experts in Pediatric Emergency medicine and nursing were consulted. Consensus was obtained on all equipment, supplies and protocols. These products approved by the Medical Advisory Board and EMS Administration with minor revisions.

Developed and implemented administration, personnel, equipment and supplies, and policy standards/guidelines for the care of pediatric patients in the emergency department. The EMSC ED Committee reviewed multiple local, state, and national references. After review of these documents, the ED Committee developed all ED products and an inclusive ED system in the county. The ED Committee's goal was to set minimum recommendations for pediatric readiness in all county EDs. Exceeding these

participation in Contra Costa County's EMSC Task Force.

minimum recommendations was encouraged and supported.

## **Conclusion**

The Contra Costa EMSC project is on target for accomplishment of goals in light of the late start date (February 2000 instead of October 1999). EMSC Products are being implemented and incorporated into the EMS plan. Pediatric specific training is in progress (PEPP and ENPC). The Contra Costa EMS Agency is moving forward with development of pediatric sensitive emergency services in this county.

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## Disaster Response Planning and Preparedness

**Grantee:**

El Dorado County EMS Agency

**Project Number:** EMS-9045

**Project Period:** 10/01/99-07/31/01

**Project Amount:** \$40,000.00

**EMS Administrator:**

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415 Placerville Drive, Suite J  
Placerville, CA 95667  
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**Final Report and Abstract Report due  
September 30, 2001.**



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## Medical/Health Services Disaster Plan

**Grantee:**

Imperial County EMS Agency

**Project Number:** EMS-9046

**Project Period:** 10/01/99-09/30/00

**Project Amount:** \$35,000.00

**EMS Administrator:**

John Pritting

935 Broadway

El Centro, CA 92243

(760) 339-4468

### Introduction

public health, environmental health, behavioral health, and the emergency medical services agency. The process of developing an integrated

Imperial County is located in an area at risk plan began with familiarizing task force members for disaster to include earthquake, flooding, winter with the principles of SEMS/ICS. Task force storms, and hazardous material incidents. members met monthly and participated in Problems encountered by public health services brainstorming and training sessions to develop the during these disasters include not having a current disaster plan and DOC.

medical/health disaster plan to include a process

to conduct a "needs assessment" that identifies **Tasks/Methodology**

client and department needs during disaster

operations; what medical/health resources are

available and how to coordinate them;

conflict/confusion when coordinating the health Development Task Force was established with

services response due to lack of understanding of representatives from each public health discipline

roles and responsibilities of the different health to include public health administration, nursing,

disciplines – both public and private; and laboratory, fiscal management, environmental

responsibilities for staffing and providing health health, behavioral health, and emergency medical

care at shelters and casualty collection points. services. An orientation was conducted for task

These problems have culminated into an inefficient force members to ensure that they understood the

response to the medical/health needs during scope of the project and their responsibilities as

disaster.

task force members.

### Project Description

A SEMS training program and post-evaluation were then developed in accordance with the CSTI medical/health matrix and revised to

The goal of this project was to develop an meet the specific needs of the task force. Training

integrated and comprehensive medical/health was then conducted and the results of the post-

branch disaster plan for all public health disciplines evaluation indicated that all task force members

in Imperial County. The project entailed had acquired an adequate understanding of

developing a written plan and establishing a SEMS.

Medical/Health Branch Departmental Operations

Center. A task force was organized from

representatives of each health discipline to include

Each task force member was then assigned the task of evaluating his or her respective client and department needs in the aftermath of a major disaster. Task force members identified the need to develop disaster plans as no plans were yet developed for any of the departments. The task force then began the work of developing the plan by following the guidelines for plan development included in the CSTI "SEMS Introductory Course".

The task force met monthly and participated in the development of a plan that would be in compliance with SEMS and meet the needs identified in objective 3. Task force members also reviewed the draft disaster medical standards developed by the Statewide Disaster Medical Standards Development Project and integrated all 18 medical and health functions into the County's medical/health disaster plan.

Upon completion of the draft plan, all management and supervisory staff from each department were given an in-service on the draft plan, which included a pre and post survey of their knowledge of disaster medical management. Participants offered feedback at the end of the session for revisions to the draft plan. Approved revisions were incorporated into the final plan.

Task force members also received training in EOC/DOC design and operations. Members participated in a brainstorming session for the design of the M/H DOC. The public health department is presently undergoing construction that will include a new training room that will be utilized as the M/H DOC during disaster operations. It is anticipated that the new building will be completed by the end of November 2000. the DOC will be

established by December 2000 and activated for a full-scale disaster exercise in March 2001.

## **Outcome**

This project resulted in the development of an integrated, comprehensive medical/health branch disaster plan for the Imperial County Operational Area. This plan conforms to the California mandated Standardized Emergency Management System and provides medical and health disaster workers with checklists, procedures, and documentation to effectively manage large-scale disasters. The plan was developed to guide medial/health disaster management personnel through the responsibilities for coordinating local response programs, for utilizing all available local resources, for instituting mutual aid requests with other counties within the local mutual aid region, and for instituting and validating State resource requests. The project also resulted in the collection of various documents that, along with the medical/health disaster plan, may serve as a guide to assist other rural areas in the development of an integrated and comprehensive medical/health disaster plan. A Medical/Health Branch Departmental Operations Center will also be established as a result of this project. The DOC will be activated when needed to coordinate the medical/health response during a disaster and provide support to the Operational Area EOC.

## **Conclusion**

The disaster plan and Medical/Health DOC developed by this

project will enable public health personnel to effectively manage the medical/health response and efficiently coordinate medial and health resources in response to a major disaster in Imperial County. Disaster plans are only effective if they are reviewed and practiced regularly. It is recommended that competent review, training and exercising of the plan by all emergency personnel be conducted on at least an annual basis to test, revise and/or validate its contents.

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## **Patient Assessment and Destination Decision (PADD)**

**Grantee:**

Kern County EMS Agency

**Project Number:** EMS-9047

**Project Period:** 10/01/99-08/31/01

**Project Amount:** \$70,000.00

**EMS Administrator:**

Russ Blind, Interim

1400 H Street

Bakersfield, CA 93301

(661) 868-5200

**Final Report and Abstract Report due  
October 31, 2001.**

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## CISM Training for Prehospital Personnel

**Grantee:**

Kern County EMS Agency

**Project Number:** EMS-9048

**Project Period:** 10/01/99-03/31/01

**Project Amount:** \$16,000.00

**EMS Administrator**

Russ Blind, Interim

1400 H Street

Bakersfield, CA 93301

(661) 868-5200

**Final Report and Abstract Report was due  
May 31, 2001.**

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## Prehospital Identification and Rapid Treatment of Acute Stroke

**Grantee:**

Los Angeles County EMS Agency

**Project Number:** EMS-9034

**Project Period:** 07/01/99-06/30/00

**Project Amount:** \$80,000.00

**EMS Administrator**

Virginia Hastings

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Commerce, CA 90022

(323) 890-7500

### Introduction

The Los Angeles County EMS Agency collaborated with physician specialists in the areas of emergency medicine and neurology from LAC+USC Medical Center and UCLA Medical Center to implement a two-year project with the ultimate goal of decreasing death and disability from stroke in Los Angeles and possibly statewide.

### Project Description

The objectives of this project included teaching paramedics on the pathophysiology and clinical signs and symptoms of acute stroke; training paramedics on using the focused neurologic assessment tool; determining the accuracy of paramedic identification of acute stroke; determining the emergency department/inpatient course of each patient enrolled in the LAPSS study; determining the frequency with which tPA is used for acute stroke patients and their ultimate neurologic outcome; evaluating the differences with regards to treatment of the acute stroke patient among different hospitals in the Los Angeles area; and evaluating the medical necessity to have specially designated "stroke centers" in Los Angeles County.

### Tasks/Methodology

The project consisted of four major phases: planning/retrospective phase, paramedic training phase, inpatient/outpatient data collection phase; and, data analysis/reporting phase.

### Outcome/Conclusion

Training in the use of the Los Angeles Prehospital Stroke Screen (LAPSS) was achieved with a short LAPSS-abased training session during which paramedics demonstrated improved general stroke care knowledge. The study concluded that paramedics are able to identify patients with acute cerebral ischemia and intracerebral hemorrhage with a high degree of sensitivity and specificity.

A total of 800 patients were prospectively enrolled in the study. Twenty-five patients (3.9%) ultimately received tPA at the receiving hospital. Eighty-nine patients (13.9%) had an intracranial hemorrhage. Further results of the study are forthcoming since the data is still undergoing detailed analysis.

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## Evaluation of Air vs. Ground Transport/Pediatric Outcome

**Grantee:**

Los Angeles County EMS Agency

**Project Number:** EMS-9035

**Project Period:** 07/01/99-09/30/00

**Project Amount:** \$86,033.00

**EMS Administrator:**

Virginia Hastings

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(323) 890-7500

### Introduction

There have been very few studies evaluating the integration of Emergency Medical Services for Children (EMSC) into Emergency Medical Services (EMS) systems and how this affects patient outcome. Because modern EMS systems are complex and treat patients with a wide variety of illness severity and type, it is difficult to determine which components of the EMS system positively impact patient outcome. Yet, because of limited resources and personnel, it is essential that those components and treatments that improve outcome be identified, so that overall effectiveness of the EMS system can be maximized.

Traditionally, the previous studies utilizing retrospective archival data sources to examine the effects of trauma centers, transport methods and other components of EMS systems on patient outcome have frequently utilized methods that are subject to substantial bias. This bias occurs because in a non-prospective and non-randomized study design, the patients given one treatment usually have different characteristics than those treated with a different treatment. A simple comparison of the outcomes of patients given the two treatments may show a difference, but it is unclear if the different treatments have different effectiveness, or if the two groups of patients had different prognosis prior to the EMS intervention. Because of this limitation the reliability of results of previously designed studies

have, at times, been drawn into question. Furthermore, it is extremely expensive, time consuming and often impossible to design randomized, prospective studies to answer these types of questions. The best way to reduce this bias, so that the effect of the EMS interventions can be measured, is to accurately match case and control patients. This study will utilize a new statistical methodology (described below) to attempt to get around this difficulty. To test this new methodology a case study of pediatric prehospital helicopter transportation will be utilized.

### Project Description

This two-year project will utilize retrospective data from the Los Angeles County EMS Agency's TEMIS database, as well as collected ED and ICU data from the nine Los Angeles County Pediatric Critical Care Centers (PCCC) to examine the outcomes of children transferred to PCCCs via ground versus air transport. These data will be analyzed using a relatively new recursive partitioning technique known as Classification and Regression Tree Analysis (CART) to stratify the diverse group of patients into low to high risk morbidity and mortality groups. These groups will then be matched to evaluate which patients might benefit from air transport to a PCCC.

The specific aims of this project are to:

- 1) Develop and test this new statistical method for evaluating the effect of EMS system components or prehospital treatments on outcome, based on archival data, which explicitly adjusts for differences in illness severity to reduce bias in a heterogeneous group of patients with the case study of pediatric prehospital helicopter transportation;
- 2) To determine the effect air versus ground prehospital transportation has on the outcome of critically ill or injured children; and
- 3) To develop evidence based on triage criteria for the utilization of air transportation of ill or injured pediatric patients.

### **Tasks/Methodology**

An infrastructure for the project was developed between the Harbor-UCLA Research and Education Institute and the County of Los Angeles Department of Health Services Emergency Medical Services Agency to administer the grant.

An Expert Advisory Committee was developed to oversee the development and guidance of the project. This committee consists of the principal and co-principal investigators, a research assistant, a data collector, a secretary, physicians from the Pediatric Emergency Medicine community, EMS administrative and support staff, Los Angeles County and City Fire Departments personnel, Los Angeles County Sheriff's Department personnel, nine pediatric critical care nurses, a statistical consultant and a lay consultant. The specific personnel are listed in the quarterly reports. Institutional Review Board approval was obtained for data collection from the nine Los Angeles County PCCCs.

Prehospital and follow-up data were collected (and are currently being collected) on ill

and injured children transported to these centers in 1997 and 1998. This data includes archival data maintained in the Los Angeles County EMS Agency's TEMIS database, Los Angeles County and Fire Departments and Los Angeles County Sheriff's Department helicopter transport records and specific medical record data from the patient visits to the PCCCs.

Following the completion of the above data collection, specialized data analysis will be undertaken. This is described in detail in the initial grant proposals but entails using Classification and Regression Tree Analysis to risk stratify the patients into several outcome risk groups. A decision tree will then be developed to determine which patient groups benefit from air transport and evaluate for which sub-populations of illness severity groups show improved survival from air transport.

### **Outcome**

This study is currently on track and in its proposed second year and is, therefore, not complete at this time. The completion of data collection is expected to be finished in approximately two months. Following this, the data analysis is expected to take approximately two months as well. Once this is complete, this information will be utilized to develop evidence-based triage criteria for the utilization of air transportation of ill or injured pediatric patients. This study will also serve as a model for the testing of other EMS and EMSC components and the effect they have on patient outcome.

The results of this study will be compiled and submitted to the Advisory Committee, Los Angeles County EMS Agency and submitted for publication in the peer-reviewed literature.



## **Conclusion**

It is inappropriate to attempt to draw conclusions from this study at this time given that the study is currently ongoing and in its proposed second year.

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## Prehospital Infant Assessment

**Grantee:**

Los Angeles County EMS Agency

**Project Number:** EMS-9049

**Project Period:** 10/01/99-09/30/01

**Project Amount:** \$99,563.00

**EMS Administrator:**

Virginia Hastings

5555 Ferguson Drive, Ste. 220

Commerce, CA 90022

(323) 890-7500

**Final Report and Abstract Report due  
November 30, 2001.**

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## Coordination of Injury Prevention Efforts

**Grantee:**

Marin County EMS Agency

**Project Number:** EMS-9036

**Project Period:** 07/01/99-09/30/00

**Project Amount:** \$37,000.00

**EMS Administrator:**

Ardith J. Hamilton

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San Rafael, CA 94903

(415) 499-6871

### Introduction

Marin County has been involved, for some time, in the development and implementation of a Trauma System Plan. Part of that plan recommends a specific focused injury control program sensitive to the special needs/epidemiology of Marin County. Injury prevention is a key component of the public health mission to “promote physical and mental health and prevent disease, injury, and disability” and, as such, is also a priority for the Department of Health and Human Services. Currently, however, there is no single source of comprehensive injury data available and no agency or individual who coordinates the multitude of injury prevention programs presented by individual agencies throughout the community.

### Project Description

Building on the recommendation made in the Marin County Trauma System Plan, this project established a specific focused injury prevention program sensitive to the special needs and epidemiology of Marin County.

A structure was established to evaluate, plan and develop the

comprehensive injury prevention program. Potential sources of injury data were located and reviewed. Injury issues in Marin County were evaluated utilizing data from those sources, with four target injury types identified. The injuries were further analyzed according to age groupings and geographical occurrence. The four categories of injury result in 74-84% of all injuries that are documented as occurring in Marin County.

A method to evaluate overall success of the injury prevention program was identified and currently provided programs were located and identified. It was determined that current programs were not in place for all target injuries and all age groups.

The plan recommends specific programs for each target injury for the various age groups and lists currently available programs that might also fill those needs. A mechanism for review and updates to the plan is presented.

The project also provided for the presentation of the Injury Prevention Program plan to stakeholders and distribution of the plan as appropriate. This final phase has not yet been completed.

### Tasks/Methodology

The project, using a part-time contractor, formed a Steering Committee to advise project staff and to review activities of the project as they evolved. This committee included interested individuals throughout the county who were involved with existing injury prevention efforts and activities. Recommendations were made for a structure to support the program as it continues through the implementation phase and for potential funding mechanisms.

Existing data collection efforts occurring within the county and at the state level related to injury occurrence were identified, as were areas of data overlap or unavailability.

The four most common causes of injury in Marin were identified and ranked by frequency of occurrence, by rate of occurrence within age groups and by geographic location of occurrence.

Current programs dealing with injury prevention were identified through the use of a survey tool and personal follow-up. Information was collected regarding target audiences, the frequency of presentations and needs not currently being met as perceived by those offering the programs. This information was compared to the identified needs and target populations.

The Injury Prevention Program includes target strategies, suggested programs, resource referrals, suggested personnel and funding needs, criteria to indicate the success of the program, and mechanisms to assure that the plan is regularly reviewed and updated. The final document will be shared with all appropriate agencies and groups.

## **Outcome**

The outcome of the project is the Marin County Injury Prevention Program. It identifies the most commonly occurring injuries in Marin County, by age groupings and geographical occurrence; suggests currently existing programs that may be appropriate for specific age groups and target injuries; and makes recommendations for needed staff and funding.

It is hoped that this will be the blueprint for agencies and programs in Marin County that are engaged in or wish to participate in injury prevention activities. It will be reviewed and adjusted periodically, based on data collected.

## **Conclusion**

During the project, it was found that the scope of injury prevention activities in Marin County was different than generally perceived. It is hoped that this plan will raise awareness of the types of injuries that are occurring, will focus the attention of providers on programs previously developed by others, and will, in the end, decrease the incidence of injury.

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## Medical/Health Disaster Preparation Plan

**Grantee:**

Marin County EMS Agency

**Project Number:** EMS-9050

**Project Period:** 10/01/99-12/31/00

**Project Amount:** \$17,000.00

**EMS Administrator:**

Ardith Hamilton

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(415) 499-6871

### Introduction

Similar to all counties in the San Francisco Bay Area, Marin County is located in an area at high risk for a large-scale disaster, with limited access roads that will be severely restricted or unavailable.

It is imperative that appropriate planning for the provision of medical care in the Marin Operational area during a disaster be addressed before the need to provide that care arises. From July of 1997 through December of 1998, the EMS Program, funded by monies from the Federal Block Grant Funding Process, worked to develop and implement a medical and health disaster preparedness plan.

Recently, there has been heightened awareness throughout the nation of the threat presented by terrorist activities and the need for government to prepare to deal with terrorist activities that may result from the dispersal of chemical, biological and nuclear products.

Although much activity related to disaster preparedness occurred over the last several years, Marin County, at the Health Department level, is inadequately prepared to handle terrorist issues and

hazardous material spills, and the medical and health response to these issues remained to be addressed.

### Project Description

This project's goal was to develop annexes to the Medical/Health Disaster Preparedness Plan dealing with certain threat-specific issues.

Using a part-time contractor and utilizing the expertise of the Disaster Medical/Health Steering Committee, the project sought to define the mission and major concerns for the two annexes.

Input from the steering committee and from other levels within the disaster community, although limited, was utilized to assure that the document was consistent with existing plans and with the Medical/Health Disaster Preparedness plan itself.

The annexes were evaluated on a limited term basis through the use of a tabletop exercise and further refinements in the annexes made. More exercises are scheduled for the future, integrating Medical/Health DOC functions with levels above and below, assuring that preparedness activities are established

that will maximize Marin County's ability to manage events of this type.

The project began with the identification of an individual with expertise in disaster planning issues specific to dealing with hazardous materials incidents and incidents involving the use of chemical, biological, and nuclear agents. This individual was contracted as the Project Coordinator and was the primary individual responsible for the work performed under the grant.

A presentation was scheduled for the regular meeting of the Medical/Health Disaster Steering Committee to review the project and evaluate the need for further planning work in these areas. This committee was established during the development of the DOC plan and continues to meet to oversee and advise staff related to medical and health disaster issues. The committee developed a revised workplan that included this project.

Annexes to the plan were developed in stages, beginning with mission statements. An outline was developed that included identified concerns related to the identified threats and to meeting the needs of field, local government, and regional levels.

During the project period, a training/exercise was conducted, utilizing scenarios that required use of information contained in the annexes.

## **Outcome**

The outcome of the project includes two annexes to the Medical/Health Disaster Preparedness Plan. They are *Annex A:*

## **Tasks/Methodology**

*Hazardous Materials Events and Annex B: Terrorist Events.* These annexes act as supplemental information to the plan, providing additional guidance for the management of these types of events.

It is hoped these documents will assist other agencies or programs that wish to specifically address medical and health issues related to hazardous materials and terrorist events.

## **Conclusion**

Although development of the annexes was more difficult than expected, the product, when adequately trained and regularly exercised, will improve the ability of Marin County to respond to disasters involving hazardous materials and to terrorist events.

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## Medical/Health Disaster Plan Development

**Grantee:**

Merced County EMS Agency

**Project Number:** EMS-9037

**Project Period:** 07/01/99-06/30/00

**Project Amount:** \$39,690.00

**EMS Administrator:**

Chuck Baucom

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Merced, CA 95340

(209) 381-1255

### Introduction

Disaster planning is a critical component of both EMS and Public Health activities, and allows the opportunity to review and confirm resources for managing medical disasters; identify the most likely hazards and the most effective strategies for managing the patient volumes anticipated, relative to the type of disaster, e.g. hazardous materials release versus earthquake. It is, however, often difficult to get system participants excited about going through the lengthy and tedious aspects of the planning process, particularly in an area that has been fortunate enough to avoid the type of disasters that typically result in mass casualties.

In an effort to reduce the burden of work during the planning stage, the EMS Authority authorized a two year project, allowing us to spend the first year of the project determining resources, planning Field Treatment Sites (FTS), exploring the establishment of disaster caches, etc. This report reflects the success of the first year's objectives and those tasks that remain to be accomplished.

### Project Description

A disaster plan steering committee was established to assist the agency with the completion of the proposed objectives. Agency

This project is for the development of a new Medical/Health Disaster Plan for the County of Merced, which will serve as an adjunct to the county Disaster Plan, more clearly defining the individual roles and responsibilities of the health care system during a declared disaster. The project was divided into two, one-year phases. This first year of the project was aimed at laying the groundwork for the plan development. The primary objectives for year one of the project were:

1. To establish a Disaster Plan Development Task Force.
2. To identify potential Field Treatment Sites (FTS) and contract for use of same.
3. To identify and contract with a personnel registry for assistance during a declared disaster.
4. To research medical supply cache locations.
5. To identify likely hazards within the Operational Area and develop hazard specific procedures.
6. To contract for training in both ICS and HazMat for field and Task Force personnel.

### Tasks/Methodology

staff coordinated the activities with the affected organizations, and provided feedback to the Steering Committee on a bi-monthly basis.

Telephone and in-person interviews were conducted with the personnel registries, medical clinics and urgent care centers. Multiple meetings were conducted with hospital and public health staff regarding FTS and hazard identification.

We coordinated with the local Office of Emergency Services with regard to the establishment of disaster medical supply caches and the identification of both sites and funding for the caches. Additionally, the State EMS Authority Disaster Services office was very helpful in providing recommendations and direction as we ran into problems.

### **Outcomes**

Through the Division of Environmental Health, hazard identification and cataloguing has been completed, with maps of the various locations and types of HAZMAT. Due to experience from previous disasters in California, the location of the FTS have been changed from such areas as fairgrounds to the hospital campuses. We are currently working out the details of those FTS and medical supply caches at the time of this writing. As there are limited personnel registries in this area, and they have very limited personnel resources, we have developed an in-house registration process and database that will be utilized in the event of a large-scale disaster requiring outside personnel. Additionally, we have developed a curriculum for the prehospital and hospital personnel including HAZMAT, ICS and Weapons of Mass Destruction, geared to the awareness level, which will be conducted in October, 2000.

### **Conclusion**

Disaster planning requires a cadre of dedicated individuals to act as the catalyst for

plan development and, realistically, do the majority of the work involved. In an area of the state that has thankfully not experienced major disasters with mass casualties, it is difficult to stimulate excitement about doing disaster planning, and often difficult to convince participants of the need for making arrangements for the use and management of outside resources, particularly human resources.

All of this notwithstanding, the first year of this project was very helpful in identifying the challenges that we face in putting together a comprehensive medical/health disaster plan. Much of the logistics for the plan have been evaluated and completed, and we are in a position to begin to put the detail of medical/health responses into place; which would have delayed the plan development had we not gone through the exercise of beginning their development this year.



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## Emergency Medical Services for Children (EMSC)

**Grantee:**

Merced County EMS Agency

**Project Number:** EMS-9051

**Project Period:** 10/01/99-12/31/00

**Project Amount:** \$79,428.00

**EMS Administrator:**

Chuck Baucom

260 East 15<sup>th</sup> Street

Merced, CA 95340

(209) 381-1255

**Introduction**

Emergency Medical Services for Children (EMSC) is a critical component to an EMS System. Children suffer from a unique spectrum of diseases and injuries, and have important anatomic physiological and developmental differences than do adults. All aspects of an EMS System must be prepared to recognize and care for pediatric emergencies; EMS providers, parents, teachers and even children need to be educated on how to avoid and prepare for emergencies.

In an effort to reduce the incidence of children entering into the EMS System, the Merced County EMS Agency has teamed up with many dedicated Pediatric and Health Care professionals to develop an EMSC Plan for our community. The California EMS Authority has funded this project and encourages the continuum of care to encompass illness and prevention activities, prehospital care, acute hospital care (including emergency and pediatric in-patient services), pediatric trauma care, pediatric critical care and rehabilitation, and interfacility transport practices.

**Project Description**

This project is for the development and implementation of an EMSC Plan, which will  
An EMSC Steering Committee was

outline high quality emergency and critical care services to all infants, children and adolescents within the County of Merced. The project was divided into two, one-year phases. The first year of the project was aimed at laying the groundwork for the plan development. The primary objectives for year one were:

1. To recruit and hire a full-time staff person to coordinate the EMSC project.
2. To contract with a consultant having substantial experience in EMSC project implementation.
3. To establish a multidisciplinary EMSC Steering Committee.
4. To develop an EMSC needs assessment and implementation strategies.
5. To implement appropriate prehospital pediatric care.
6. To establish appropriate administrative, clinical, personnel, supplies, and policy guidelines for emergency departments.
7. To establish childhood injury and illness prevention, in coordination with existing programs.
8. To develop appropriate interfacility pediatric trauma and critical care consultation and transfer guidelines.
9. To effectively administer the grant project.

**Tasks/Methodology**

established to assist the EMS Agency with the

completion of the proposed objectives. Issues regarding prehospital care, hospital operations, and community needs for injury prevention were discussed and reviewed by three separate focus groups. Survey tools were developed and utilized by each focus group to form a needs assessment of our community's pediatric capabilities. Multiple meetings were conducted, with feedback from each provided to the Steering Committee on a bi-monthly basis.

## **Outcome**

Pediatric specific guidelines and recommendations for improvement were successfully drafted during year one of this project. From those guidelines, a draft EMSC Plan was developed and will be submitted to the Steering Committee for review in January 2001. The guidelines and recommendations include those aspects of pediatric care specific to prehospital and acute hospital operations; from personnel issues to equipment and supply needs; administrative policies and procedures to quality improvement priorities. It also encompasses a plan for the further development of illness and injury prevention initiatives to be addressed in year two.

To facilitate implementation of the EMSC Plan, the EMS Agency will be hosting a Pediatric Emergency Care Conference in May 2001. The conference will give EMS providers, public health and mental health professionals, educators, parents and other interested members of the community the tools necessary to care for children within their perspective field and/or environment. The topics for inclusion will range from pediatric medical and trauma emergencies to child safety and injury prevention initiatives.

## **Conclusion**

Many key players of the community represented this Project, each contributed essential attributes to the EMSC Plan development; and each learned what strengths and weaknesses they truly have to offer. While all facilities and providers have done a terrific job at initial stabilization and caring for the sickest children, all participants agree that much more can be done to standardize the level of pediatric emergency and critical care services delivered within our EMS System.

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# Statewide Standards for Disaster Medical Response

**Grantee:**

Mountain-Valley EMS Agency

**Project Number:** EMS-9038

**Project Period:** 07/01/99-06/30/00

**Project Amount:** \$100,000.00

**EMS Administrator:**

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**Introduction**

In cooperation with the Emergency Medical Services (EMS) Administrators Association of California, Mountain-Valley EMS Agency began a project in July 1999, funded by the California EMS Authority, to develop disaster medical system (DMS) standards to assist local EMS agencies (LEMSAs) in the development of local disaster medical systems. These standards will provide the basis for regulations to be developed in FY 2000-2001.

**Project Description**

A multi-disciplinary Steering Committee and an Advisory Group were formed from local, regional, and state representatives, as well as many DMS stakeholder groups from throughout the state. The Steering Committee identified 18 medical and health functions for which local government currently has primary or significant responsibility:

1. Assessment of Immediate Medical Needs
2. Health Surveillance and Epidemiology
3. Disaster Medical and Health Resources
4. Manage Medical Transport
5. Manage Patient Distribution/ Evacuation

A set of DMS standards and an organizational oversight body to continue to

6. Coordinate Pre-hospital Emergency Services
7. Support Hospital Emergency Services
8. Support the Provision of In-Hospital Care
9. Support Out-of Hospital Care
10. Support Temporary Field Treatment Sites
11. Food Safety
12. Manage Exposure to Hazardous Agents
13. Mental Health
14. Medical and Health Public Information
15. Vector Control
16. Potable Water
17. Waste Management
18. Communicable Disease Control

The Steering Committee also identified nine functions, identified in bold type above, for which local EMS agencies have primary responsibility for preparedness, response, or recovery activities. The intent of the regulations that result from this project, at a minimum, is to promote an assurance role for LEMSAs in the development of quality DMS systems. Project advisors recognized that given the variety of ways in which EMS services are organized in California, various LEMSAs will have different operational roles related to disaster medical services.

**Outcome**

promote standardization throughout the state was

submitted to the EMS Authority for consideration.

## **Conclusion**

Both the Steering Committee and Advisory Group identified the need for legislation to provide a medical and health framework for implementation of these standards by local systems. The proposed legislation will define the eighteen functions and name the Health Officer or designee as the government official having primary oversight responsibility for development and implementation of the functions.

The Project Advisory Group unanimously recommended that the California Department of Health Services undertake a similar project to assist local public and environmental health officials to establish statewide standards and guidelines. They also recommended the creation of an oversight body or bodies to maintain and update the statewide medical and health standards.

The Project has recently received second year funding to work with local and state organizations to complete the regulatory process, develop related training standards, and provide orientation and training for LEMSAs and disaster medical personnel.

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## Standards & Guidelines for Statewide EMS System Evaluation

**Grantee:**

Mountain-Valley EMS Agency

**Project Number:** EMS-9039

**Project Period:** 07/01/99-06/30/00

**Project Amount:** \$114,745.00

**EMS Administrator:**

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### Introduction

The need for an effective evaluation model for EMS systems is documented in the National Highway Traffic Safety Administration (NHTSA) publication, *Emergency Medical Services: Agenda for the Future, 1996*. It states; "The ability of EMS systems to optimally meet communities' and individual patients' needs in the future is dependent on evaluation processes that assess and improve the quality of EMS." (1996: 57). Yet models for determining EMS system effectiveness are lacking. The San Mateo County EMS Agency raised awareness regarding the need for comprehensive standardized guidelines to evaluate and improve EMS system performance in their report *Managing Change to Improve Emergency Medical Services* (1995). In addition, the Mountain-Valley EMS Agency described the use of quality indicators to measure performance in *EMS System Evaluation – Using Quality Indicators to Evaluate System Variation and Benchmark Performance* (1997). These reports make it clear that standard and guidelines should define the minimum benchmark structural, process, and outcome indicators, and their associated data collection points. These definitions and standards must be consistent statewide before any broad-based system analysis and improvement can occur.

### Project Description

The purpose of this project was to produce an EMS system evaluation model establishing minimum standards and guidelines for EMS system evaluation in California. This document defines an organizational structure, quality indicators, and operating procedures for EMS system evaluation at the state and local levels. In addition, it describes methods and processes for engaging in quality improvement utilizing the Rapid Cycle Improvement (RCI) model.

### Tasks/Methodology

- Develop Statewide Organizational Structure and Oversight for EMS System Evaluation
- Develop Sample Indicators and Associated Data Collection Points
- Develop Model Operating Procedures
- Develop Recommendations for Implementation of Standards and Guidelines

### Outcomes

- Established an informal consortium of EMS agencies and providers.

- Developed a proposed statewide organizational structure.
- Surveyed EMS agency administrators,
- Defined indicators and conducted data collection cycles to refine those indicators.
- Mapped out a model for engaging in quality improvement utilizing the Rapid Cycle Improvement (RCI) process.

## Conclusion

The project was successful in establishing an organizational structure, developing operating procedures, and defining quality indicators for EMS system evaluation. Lessons learned during the grant period will benefit future endeavors to continually assess and improve EMS systems throughout the state of California.

medical directors, and other EMS personnel to identify and prioritize system indicators.

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## Stanislaus County EMS System Redesign

**Grantee:**

Mountain-Valley EMS Agency

**Project Number:** EMS-9052

**Project Period:** 10/01/99-09/30/00

**Project Amount:** \$69,976.00

**EMS Administrator:**

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### Introduction

Anyone currently involved in emergency medical services in California is well aware of the many changes the industry is currently experiencing. The advent of managed care and reductions in reimbursement by governmental third party payers is forcing EMS systems statewide to evaluate the way they do business and seek more efficient and cost effective ways of providing quality services.

### Project Description

The purpose of the Stanislaus County EMS System Redesign grant was to conduct an evaluation of the current EMS dispatch, first responder, and ambulance transport configuration in Stanislaus County and develop options to reduce cost, and increase the quality and options of services provided through the EMS system. This project was part of an ongoing effort begun in 1995.

### Tasks/Methodology

The project methodology included hiring an outside consultant to conduct the evaluation, research, and work with local constituency groups to develop system configuration options for county dispatch,

first response, medical control, and ambulance transport. Some of the configuration options being considered were: 1) A level three dispatch center with a non-emergency triage station, call-a-nurse services, and medical control operations, 2) treat and release/referral on scene, utilization of R.N.s in the field, and dispatch of BLS to non-emergent calls, and 3) transport/referral to alternate receiving facilities.

### Outcome

Funding for this project was terminated by the State EMS Authority due to reductions in the FY 1999/2000 Prevention 2000 funding.

### Conclusion

The project will recommence following Prevention 2000 grant funding in FY 2000/01.

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## Multi-County Disaster Medical/Health Preparedness

**Grantee:**

North Coast EMS Agency

**Project Number:** EMS-9040

**Project Period:** 07/01/99-06/30/00

**Project Amount:** \$40,000.00

**EMS Administrator:**

Larry Karsteadt

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### Introduction

In the late 1980s and into the mid-1990s a series of magnitude 6.5-7 earthquakes reminded north coast communities of the risk of living in our seismically active region. The 1964 Crescent City tsunami (generated from the Alaska earthquake) also persists in local memory as a sober reminder of the destruction caused by natural disasters. North coast residents are at risk of severe ground shaking and liquefaction during a major (+8 magnitude or greater) earthquake along the Cascadia Subduction Zone (CSZ). This event could also trigger a tsunami with tremendous destructive potential.

Local and state disaster planners recognize that a major event of this severity could significantly stress the EMS and health care delivery systems. Rural and remote areas could be isolated for several days. Local and county response plans must link with state and federal resources, and the Cascadia Airbridge needs to seamlessly link to operational area plans. The Cascadia Region Disaster Medical/Health Special Project was designed to help county officials enhance

North Coast EMS, the Humboldt County Public Health Department and Del Norte County Department of Health and Social Services, and the Offices of

planning and preparedness efforts in Del Norte and Humboldt Counties in anticipation of a Cascadia event.

### Project Description

The primary purpose of the Cascadia Project was to augment local medical disaster planning and preparedness efforts. This was accomplished by identifying potential "isolated islands of humanity" (IIH). Field Treatment Sites, available medical supplies, helicopter landing sites, medical personnel and other potential resources that could be utilized during a major event were identified in year one of the project. Personnel and resource lists were produced to supplement the county disaster medical annexes. Key elements were displayed on Geographic Information System maps and significant progress was made to enhance communications between all levels of the disaster response system.

### Tasks/Methodology

Emergency Services in both counties formed a Steering Committee to work with a Project Coordinator to implement the objectives. North Coast EMS administered



the project and completed all reports in close coordination with the Steering Committee. Potential IIH were identified using Humboldt State Geology Department and USGS Special Publications data. CD-ROM GIS maps were generated by a local expert. Numerous surveys were distributed to assess existing resources; these were compiled and made available to disaster personnel in both counties. Regular meetings were conducted with Steering Committee members; key organizations were involved throughout the year to enhance project success, including: Red Cross, Hoopa Tribal representatives, the Public Works Department, State OES, EMSA and others.

## **Outcome**

Specific products generated from the Cascadia project include: twenty-three (23) IIHs were identified; a Field Treatment Site matrix was generated; lists of hospitals, nurses, and pharmacies were developed or updated; wall maps, map books and CD-ROM maps were produced (these include FTS, landing sites as well as bridges, roads, airstrips, tsunami run-up zones, liquefaction zones, and many other data points by latitude/longitude); a NEST web site was created; and, medical disaster manuals with supplemental information were completed. A medical supplies list was approved in Humboldt County and numerous informal and formal arrangements were established to enhance overall preparedness.

## **Conclusion**

The first year of the Cascadia Region Medical/Health Disaster Project

successfully established a foundation for future collaborative efforts between local, county, regional and state disaster medical planners. Previous medical disaster preparedness efforts were supplemented with updated resource lists and other tools designed to enhance the decision-making process during a localized or widespread event. Areas most likely to be isolated following an earthquake or tsunami were assessed and vital information was compiled for integration into the established county planning process.

Overall awareness of the potential for catastrophic disaster was increased and communications between community, county, regional and state planners was enhanced. Year two funding is essential, however, to complete unfinished products, create additional map layers and verify accuracy of the CD-ROM maps and other tools, increase the number of nurses trained in delivery of disaster medical health care, perform a drill of the medical response to a mock Cascadia scenario, ensure that county disaster medical plans are updated, and promote the NEST program in communities.

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## Trauma System Evaluation

**Grantee:**

San Francisco County EMS Agency

**Project Number:** EMS-9041

**Project Period:** 07/01/99-09/30/00

**Project Amount:** \$49,826.00

**EMS Administrator:**

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### Introduction

An organized system of emergency transport of trauma patients to San Francisco General Hospital, and a coordinated system of care at that Trauma Center has existed since the early 20<sup>th</sup> century. This trauma system has served as a model for the study of improved methods of trauma care. At the beginning of the 21<sup>st</sup> century, San Francisco is reevaluating its nationally recognized trauma care system and looking toward a regionalization of services with other Bay Area trauma systems.

Subject to constraints of the county Department of Public Health budget, the sole Trauma Center in San Francisco must vie for public funding dollars to maintain a high quality trauma system. New California State trauma regulations, and a catchment area recently expanded to San Mateo County, are additional factors that bring to the fore the need for the organizational and information systems updates supported by this project.

### Project Description

During the two-year course of this project, four distinct aspects of the trauma system will be evaluated. These are 1) the trauma center organizational structure; 2)

community hospital participation in the trauma system; 3) the need for aeromedical services in San Francisco County; and 4) the need for a regionalized trauma quality assurance program.

The project has set out to update the Trauma Center standards to meet newly revised California Title 22 regulations and newly revised standards of the American College of Surgeons. In addition, progress continues toward enhancing the trauma registry software for the Trauma Program at San Francisco General Hospital, developing a disaster back-up plan for the trauma center, and evaluating the use of community hospitals by severely injured patients. The incorporation of a functional recovery component of the trauma registry is planned, which will capture information from community hospitals as well as the trauma center. Additionally, the project implemented a needs assessment and feasibility study for aeromedical services in San Francisco. Finally, the project supports the development of a regional Trauma Quality Assurance Program with San Francisco and neighboring county trauma systems.

### Tasks/Methodology

Using an ad hoc committee structure, staff from the Trauma Center and

the local EMS Agency have drafted budget initiatives and policy changes, and performed needs evaluations for this project. Consultants have been hired to

In the second year, a survey instrument will be developed by the ad hoc committee on Trauma to assess current community hospital data collection practices for patients presenting with major injury. The Trauma Registry upgrade will allow for extension of data collection to community hospitals to capture acute care and functional recovery information. These data will be analyzed to evaluate community hospital outcomes for injured patients.

A Trauma Audit Committee inclusive of representatives from San Francisco, San Mateo, and Marin counties will be incorporated in year two of this project, lead by the efforts of the ad hoc committee on Trauma.

## **Outcome**

During year two of this project, the updated Trauma Plan for the City and County of San Francisco will be produced. This will guide policy and planning for the trauma system. The new trauma Registry platform for the Trauma Center will enhance accuracy and flexibility of trauma system data collection. A position paper from the Mobile Air Access Project will guide policy decisions for aeromedical transportation for trauma patients. Outreach to community hospitals and neighboring trauma systems will provide outcome data on repatriation of trauma patients, functional recovery, and comparison of performance data for three adjacent trauma systems.

reprogram the trauma registry and assist with the aeromedical operations feasibility study.

## **Conclusion**

This project has, and will have significant impact on the trauma system in San Francisco, further improving the standard of care for injured persons locally, and in neighboring trauma systems. The project paves the way for more detailed, objective evaluation of the trauma system that will inform the public and policy makers about decisions in healthcare dollar allocations for the prevention and treatment of injuries in San Francisco and the broader Bay Area region.

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## EMS Community Health Education Program

**Grantee:**

San Mateo County EMS Agency

**Project Number:** EMS-9053

**Project Period:** 10/01/99-12/31/00

**Project Amount:** \$29,600.00

**EMS Administrator:**

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### Introduction

In 1998, San Mateo County redesigned its EMS prehospital system by establishing a public/private cooperative service model. The newly executed contract identified optimal system components required to meet the needs of a rapidly changing health care industry including the recognition of an expanding role of prehospital personnel? that of community health educators.

### Project Description

The San Mateo County Community Health Education Project proposed to establish a comprehensive and coordinated community health education program to integrate the county's 250 paramedics into existing community health education efforts. The Project chose to focus its initial efforts on three significant health care issues identified by the San Mateo County Department of Health Services and the California Department of Health Services Emergency Preparedness and Injury Control (EPIC) Branch.

The Project concentrated its efforts to address 1) senior falls, 2) teenage impaired driving and 3) improper use and installation of child passenger safety seats.

### Tasks/Methodology

The San Mateo County EMS Community Health Education Project proposed to focus on the following five objectives. Each objective and corresponding activities were deemed to be appropriate and manageable for a newly established project to successfully complete.

- To establish within San Mateo County EMS, an organizational and administrative structure for the planning, development and implementation of a coordinated EMS Community Health Education Program.
- To pilot a fire service-based elderly fall prevention/home safety program.
- To partner with a San Mateo County high school to plan and present an *EVERY 15 MINUTES* Program.
- To sponsor the presentation of three 8-hour Child Passenger Seat (CPS) training classes for San Mateo County paramedics.
- To sponsor a minimum of two car seat inspection events in conjunction with the Santa Clara/San Mateo Counties SAFE KIDS Coalition.

### Outcome

The project completed all of its proposed objectives and tasks; however the overall goal of integrating the county's paramedic work force into identified community education activities was less than successful. The Project, however, did succeed in its goals to establish partnerships with existing San Mateo community health education efforts and to utilize established and successful programs and materials. Project efforts centered on strengthening existing collaborations and establishing new partnerships. Established and successful programs that were utilized by the Project included NHTSA's 8 Hour Child Passenger Safety Curriculum, the California Alcohol and Beverage Control's *Every Fifteen Minutes* Program and the American Fire Protection Association's *Remembering When: A Fall and Fire Prevention Program for Older Adults*. All three programs received positive evaluations.

## **Conclusion**

As a result of the San Mateo EMS Community Education Project, three significant public health issues were addressed utilizing a number of resources including San Mateo County paramedics. The establishment of a permanent Community Education Program by the primary ALS contractor which includes criteria to assure paramedic community education participation in compliance with the ALS contract should help to ensure that the Project's gains and momentum will not be lost.

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## Emergency & Disaster Planning for the Vulnerable Population

### Grantee:

Santa Barbara County EMS Agency

**Project Number:** EMS-9042

**Project Period:** 07/01/99-10/31/00

**Project Amount:** \$67,807.00

### EMS Administrator:

Nancy LaPolla

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### Introduction

Santa Barbara County needs an organized response system to meet the special needs of vulnerable populations who are unable to act independently and safely during an emergency or disaster. This report represents work completed in the first year of a two-year project to develop an organized system to meet the special needs of vulnerable populations.

### Project Description

The purpose of this grant is to develop a specific plan for disaster response for vulnerable populations who include but are not limited to:

- People with short-term illnesses or chronic disabilities.
- Frail seniors and other adults and children with disabling acute or chronic illnesses/conditions.
- People with disabling chronic or acute mental illness.

The County of Santa Barbara Emergency Medical Services Agency conducted a study during the first year of this project to assess the need to develop an organized disaster plan that will be accessible to all community based organizations, facilities and to Emergency

and Disaster Agencies during an emergency or disaster. We envision developing a plan that will enable quick response to the vulnerable populations in an emergency or a disaster.

### Tasks/Methodology

The specific objectives are:

1. To hire a Project Coordinator and appropriate staff to establish a multi-agency Task Force that will assess the needs of vulnerable populations during an emergency or a disaster occurring within Santa Barbara County.
2. To identify all vulnerable populations that will not be able to act independently and safely during an earthquake or other disaster/ emergency.
3. To collect information regarding vulnerable populations including a set of common variables defined by the Task Force (e.g. patient address, nearby assistance, equipment/ communication needs, medications, physical/mental limitations, evacuation sites) to prioritize type, extent and timeframe of assistance needed.
4. To develop a work plan which outlines how to collect the above information and define agency responsibilities among Task Force members for information

maintenance.

5. To collect existing response plans among Task Force agencies or assist the agencies in developing response plans that meet the unique needs of their identified vulnerable clients during emergencies or disasters.
6. To review the Santa Barbara County Medical Disaster Plan to determine if the vulnerable populations defined by the Task Force are included in the Plan.
7. To explore feasibility of providing transportation of medically fragile from shelters to appropriate facilities or providing medical assistance at the shelter sites.
8. To investigate methods of identifying and incorporating unidentified vulnerable populations outside the responsibility of existing agencies into the Task Force work plan.
9. Based upon the outcomes of the Task force findings, develop a proposal for second year funding to implement/operationalize the work plan, conduct community outreach and education, and continue methods of investigating unidentified vulnerable populations into the Santa Barbara County Medical Disaster Plan.
10. As part of the second year funding, review and make recommendations for changes to the Santa Barbara County Disaster Plan and with specific recommendations for revisions to the County Public Health and Medical Disaster Plan, including vulnerable populations.

## **Outcome**

The Vulnerable Populations/Data Subcommittee was successful in defining the groups comprising 40,000 residents as included in the vulnerable populations. Committee member included the Public Defender's office, Area Agency on Aging, Independent Living Resource Center, Coast Caregivers Resource Center, Mental Health, Social Services, and Public Health Department. GIS mapping was chosen as the vehicle to identify the approximate location of the vulnerable populations.

The committee prioritized the level of response needed (#1 is immediate response = 24 hours). These people have immediate needs due to technology dependence, homebound status, critical medications, cognitive impairments, lack of immediate supervision, etc. (about 3,000 persons).

The CBO/Emergency Responders Subcommittee identified the community agencies that provide care for the vulnerable populations and the first responders within the County as well as their role/responsibility in an emergency or a disaster.

## **Conclusion**

We have completed most of each of the first year objectives, and in doing so, have realized that the scope of this project is much broader and more complex than anticipated.

During the second year, we will attempt to develop a disaster response plan that meets the needs of the vulnerable populations in Santa Barbara County.

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## A Professional Education Series for Emergency Medical Services

**Grantee:**

Santa Clara County EMS Agency

**Project Number:** EMS-9055

**Project Period:** 10/01/99-09/30/00

**Project Amount:** \$40,000.00

**EMS Administrator:**

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### Introduction

Although there are a number of highly qualified speakers on emergency medical services issues and related topics, the often-considerable cost and staff time necessary to arrange and fund these presentations, including speaker's fee, travel, accommodation, and a venue, is beyond the means of many local agencies. This lack of availability and access is particularly felt in small and/or rural areas, but also affects larger agencies and organizations that find it difficult to provide educational opportunities by national caliber speakers on more than a sporadic basis. The few occasions that do exist afford only limited access to the greater EMS community, and are often cost or travel prohibitive to many EMS professionals. Because of these difficulties, valuable educational opportunities are being lost.

### Project Description

The purpose of the project was to identify regionally and/or nationally recognized lecturers, presenters and educators based on input from local EMS agencies, the EMS Authority, and other constituent groups; secure the services of the recommended educators; arrange venues for the courses; provide Prehospital, BRN, and CME continuing education credit applicable to the course content;

The project's lack of success is likely due to a number of factors, including inadequate

and develop a "user-friendly" guide for other local EMS agencies who may wish to assume this role in future years.

### Tasks/Methodology

After receiving notice that the grant application had been approved, the EMS Agency announced the program and requested input and suggestions from the EMS community. Despite a poor response, the EMS Agency continued to develop the infrastructure needed to conduct the *EMS Presents* project. Those activities included recruiting qualified presenters, procuring service agreements, identifying venues, providing for CE credit, and preparing the information gathered for future potential sponsors.

### Outcome

Despite strong initial support of the *EMS Presents* project concept, the project was only partially successful. Following the grant award, EMS community interest in the project was wanting, and only a third of the originally proposed presentations were eventually delivered.

### Conclusion

funding, disinterest by the planned recipients of the presentations, a difficult and time consuming



contracting process, and poor timing with the other significant EMS issues/projects currently under way. We continue to believe in and support the *EMS Presents* project concept; however, it would be better facilitated by an agency or entity with flexible contracting processes, additional financial and staff resources, and more opportune timing.

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# A Practical Guide for the Develop. & Implementation of EMSC

**Grantee:**

Sierra-Sacramento Valley EMS Agency

**Project Number:** EMS-9043

**Project Period:** 07/01/99-12/31/00

**Project Amount:** \$94,774.00

**EMS Administrator:**

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## Introduction

To date, 20 Local Emergency Medical Services Agencies (LEMSA) in California have integrated Emergency medical Services for Children (EMSC) components into their Emergency Medical Services (EMS) systems. Each LEMSA has relied on consultation with other LEMSAs, or other experienced professionals to provide information about EMSC development and implementation. The purpose of this project was to develop a practical guide for use by LEMSAs in further EMSC development, or in initial implementation of EMSC.

## Project Description

Under the supervision of the Sierra-Sacramento Valley EMS Agency, the Northern and Central Pediatric Intensive Care Unit Network developed an Advisory Board for the project (EMSC Manual Advisory Board), and assembled materials for use in the guide. Efforts were directed to developing a concise, clear, readable instructional guide to EMSC for use by health care professionals in the prehospital and in-hospital setting.

## Tasks/Methodology

Project staff and consultants assembled EMSC materials, including prehospital protocols, policies, letters, and forms that were used in the process of EMSC development and implementation statewide and nationally. A multidisciplinary EMSC Manual Advisory Board was recruited to aid in review of materials and format of the guide. A standard format for the guide was developed by project staff to assure consistency of the chapters, and reviewed for readability and educational level. Materials were reviewed and revised three times by the EMSC Manual Advisory Board and staff. The guide was formatted with icons identifying each section of the chapters, and a checklist was included for each component.

## Outcome

The handbook, "Development and Implementation of EMSC: A Step-by-Step Approach," was edited, formatted and printed. The document consists of 16 chapters describing the development and integration of EMSC into EMS Systems, from prehospital care through hospital discharge. Protocols, policies, forms, letters, and other supplemental materials for each chapter are included in an Appendix for each chapter. The guide and the Appendix are also available in CD-ROM format. Because the guide is in the public domain, the forms and materials can be easily downloaded and tailored to the needs of the individual EMS Agency.

## **Conclusion**

A hard copy of the guide, along with the CD-ROM version, was provided to the Director of each LEMSA in California, and was highlighted at the Third Annual EMSC Conference in San Diego in December 2000. Evaluation of the usefulness of the guide is planned, and recommendations for further revisions will be made as necessary.

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# Trauma System Resource Document

**Grantee:**

Sierra-Sacramento Valley EMS Agency

**Project Number:** EMS-9056

**Project Period:** 10/01/99-01/31/01

**Project Amount:** \$97,000.00

**EMS Administrator:**

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## Introduction

This grant was intended to create a statewide fiscal resource – “white paper” for trauma system funding and to address the issues of California’s trauma system.

## Project Description

A project consultant, Barbara Powell, was hired following a number of interviews with interested applicants. The intent was to hire a consultant with little or no trauma experience in order to give a “layperson” view in the white paper.

## Tasks/Methodology

A project team was identified which consisted of trauma physicians, lobbyists, EMS administrators, hospital administrators, nurses, and hospital council. The team met four times to discuss the content of the paper and to try to determine costs and develop a map of California. A graphic artist worked with the consultant to develop the graph and map.

A nationwide survey was conducted into the financial stability and funding sources of other state’s trauma system.

A literature search was conducted, an analysis of managed care policy on trauma funding was conducted and a list of potential supporters of funding was compiled.

## Outcome

S-SV has developed a white paper that was presented in a press conference at the capitol. It was widely received throughout the state. Prior to the press conference, a meeting with the State EMS Authority was held to discuss the findings. The paper was distributed to every legislator and senator, as well as CSAC, ACEP and CMA.

The only complications in the grant were in the inability to acquire actual cost data from the various trauma centers around the state and allowing time to have the report printed.

## Conclusion

The white paper was extremely well received. The press conference was well attended with follow-up phone calls from radio stations and articles in the Sacramento Bee, the Business Journal and the San Diego Press-Tribune. Assembly member Helen Thomson addressed this

issue in a six-hour public hearing on February 13<sup>th</sup> and is committed to writing legislation. Assembly member Gloria Romero has had several meetings with Leonard Inch and Vickie Pinette regarding possible legislation.

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## Violence Prevention Education for EMS Providers

**Grantee:**

Sierra-Sacramento Valley EMS Agency

**Project Number:** EMS-9057

**Project Period:** 10/01/99-09/30/00

**Project Amount:** \$10,000.00

**EMS Administrator:**

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### Introduction

This project was intended to educate pre-hospital providers on responding to a scene involving violence. This includes safety awareness, documentation and recognition of a domestic violence victim. The establishment of Safe Havens is also part of this project.

### Project Description

A safe haven is a designated fire station with a telephone installed outside the fire station that has a direct line to dispatch. Should a victim seek shelter at a station that is unmanned due to the firefighters being on a call, the victim would be able to pick up the phone and have a direct line to dispatch. The dispatch center would send a sheriff's unit and place a call to the local women's shelter and a victim advocate would also respond.

Any fire department wishing to establish a safe haven contact S-SV for the guidelines. The designation is approved by the Fire District Board and gains approval from S-SV.

### Tasks/Methodology

Objectives were accomplished by contracting with Dr. Victor LaCerva, an expert in the field of violence prevention. Victim advocates from the local women's shelter were engaged to speak. A training guide was printed and distributed to attendees and made available upon request. The training guide is used in S-SV paramedic accreditation classes. Each local women's shelter distributed resource materials.

### Outcome

Objectives were accomplished by discussing the workshops at all committees, mailing flyers announcing the workshops, and collecting evaluations at the conclusion of each workshop.

### Conclusion

The conclusion of the first year was to implement two departments, consisting of five stations, as Safe Havens in Nevada County. One station in West Sacramento is designated as a Safe Haven.

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## Automated Ambulance Inspection System

**Grantee:**

Sierra-Sacramento Valley EMS Agency

**Project Number:** EMS-9059

**Project Period:** 10/01/99-09/30/00

**Project Amount:** \$46,478.00

**EMS Administrator:**

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### Introduction

This grant was intended to implement an automated ambulance inspection system. The software processes all ambulance inspection information, dates of inspections, ambulance equipment inventory, dates of inspections and updates. It will allow for CHP coordination effort.

### Project Description

The records analyst worked closely with the consultant to develop the data fields and submit the ambulance unit numbers and inventory list for integration into the data system.

### Tasks/Methodology

This system was developed for the data system currently in use. Therefore, developing the linkage was less time consuming and more accurate than a different software program. The consultant programmed the ambulance providers, unit numbers and inventory list for integration into the current system. A scantron form is now in use for ambulance inspection. As this software also has a personnel registry component, new forms were developed and are currently in use.

### Outcome

The software was installed, forms printed and translation took place.

### Conclusion

The current ambulance inspections are being scanned into the system. This is a time saving, much more accurate and efficient method of tracking inspections, deficiencies, and inventory.

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## Trauma Assessment and Planning

### Grantee:

Ventura County EMS Agency

**Project Number:** EMS-9058

**Project Period:** 10/01/99-09/30/00

**Project Amount:** \$77,000.00

### EMS Administrator:

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### Introduction

This two-year project is intended to produce a comprehensive needs assessment for trauma in Ventura County and a State EMS Authority approved trauma plan consistent with the requirements of the California Health and Safety Code and Code of Regulations. The goal of this year one project was to identify all available resources for the management of the injured patient, maximizing local resources as appropriate.

### Project Description

During year one, the Ventura County EMS Agency (VCEMS) conducted an assessment of the nature and extent of trauma in the county and to inventory resources and needs relative to the stakeholders of the health care system.

During this project, all available resources for the management of trauma have been identified. A system assessment was conducted to identify system access methodologies, prehospital services (ground and air), hospital and physician services and rehabilitation capabilities. The assessment determined the level of trauma education of the system participants and assist with identifying future training needs. The results of this assessment provide the basis for the

promulgation of a prehospital triage protocol, directing the injured patient to an appropriate facility.

### Tasks/Methodology

Objective 1: Evaluate and identify needs and support for a trauma planning process.

Objective 1 involved conducting meetings with all key stakeholder groups and conducting two steering group meetings on the overall project's goal, direction and on obtaining input on the first draft report.

Objective 2: Contract for a trauma consultant experienced with trauma system assessments and development

To meet this objective, Ventura County executed the contract with the Abaris Group. The Abaris Group assigned two staff to this project, Mike Williams and Bev Ness, RN. They conducted the interviews and coordinated the steering meetings. The Abaris Group was also assigned responsibility for ensuring that all requirements were met and quarterly and final reports were prepared and submitted.

Objective 3: Perform an assessment of the prehospital care services.

Conducted onsite interviews with all



prehospital care providers (air, ground) in the county.

Summarized results and incorporated in to the final report.

Objective 4: Perform an assessment of the hospital care services.

Conducted onsite interviews with all hospital care providers in the county.

Prepared and completed a comprehensive inventory form for each hospital provider.

Summarized results and incorporated in to the final report.

Objective 5: Prepare a summary of needs, resources and future direction of the trauma program.

Based on the analyses, reviews, and recommendations, conducted as a result of the above objectives, a draft report on the resources, conclusions and future direction of the trauma program was completed. Specific issues pertaining to the unique needs of the Ventura County trauma community were addressed.

The culmination of the first year of this project resulted in the development of trauma resource inventory and needs assessment report which is the final product of this grant. This year one report incorporates the findings, analyses, review, survey, and on-site visits.

## **Outcome**

During this project a comprehensive needs assessment and final report was prepared and presented to the trauma stakeholder groups

Prepared and completed a comprehensive inventory form for each provider.

in the community. This document is intended to form the basis of the development of a future trauma plan.

## **Conclusion**

The project succeeded in accomplishing the goals of the first year of the grant. Resources were identified, key stakeholder input solicited and kept informed during the entire process and a final report listing the resources and conclusions for the future trauma system agreed on by all key parties was produced.